



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0958; Project Identifier 2019-CE-010-AD]

RIN 2120-AA64

Airworthiness Directives; Gulfstream Aerospace Corporation Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for all Gulfstream Aerospace Corporation (Gulfstream) Model GV and GV-SP airplanes. This proposed AD results from corrosion of the horizontal stabilizer lower bonded skin assemblies. This proposed AD would require inspecting the horizontal stabilizer lower skin and associated bonded doublers and bonded stringers, repairing the area susceptible to corrosion, and incorporating revisions to the airworthiness limitations section (ALS) in the existing aircraft maintenance manual (AMM). The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402; phone: (800) 810-4853; fax: (912) 965-3520; email: pubs@gulfstream.com; website: <https://www.gulfstream.com/en/customer-support/>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0958; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Ronald Wissing, Aviation Safety Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5552; fax: (404) 474-5606; email: ronald.wissing@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2021-0958; Project Identifier 2019-CE-010-AD” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Ronald Wissing, Aviation Safety Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

Gulfstream notified the FAA of bond line corrosion on Model GV and GV-SP airplanes, which causes disbonding between the horizontal stabilizer lower skin and associated bonded doublers and bonded stringers. Gulfstream determined that the existing visual inspection in the AMM does not reliably detect bond line corrosion, and they added a repetitive non-destructive testing (NDT) inspection to detect the damage. Gulfstream added the revised inspections to the ALS of the AMM. This condition, if not addressed, could compromise the structural integrity of the horizontal stabilizer and lead to loss of control of the airplane.

FAA’s Determination

The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Related Service Information under 1 CFR Part 51

The FAA reviewed Gulfstream G500-5000 Customer Bulletin No. 190, Revision B; Gulfstream G550 Customer Bulletin No. 190, Revision B; and Gulfstream GV Customer Bulletin No. 228, Revision B; all dated October 31, 2019. For the applicable

marketing designation specified on each document, the customer bulletins specify procedures for inspecting the horizontal stabilizer lower bonded skin.

The FAA also reviewed Gulfstream V Maintenance Manual, Airworthiness Limitations, Section 05-10-10, dated February 28, 2020; Gulfstream G500-5000 Maintenance Manual, Airworthiness Limitations, Section 05-10-10, dated March 15, 2021; and Gulfstream G550 Maintenance Manual, Airworthiness Limitations, Section 05-10-10, dated March 15, 2021. For the applicable marketing designation specified on each document, the service information contains inspection intervals for nondestructive testing of the lower horizontal stabilizer skins and provides the specific reference for the inspection procedures.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

Other Related Service Information

The FAA also reviewed the following service documents related to this NPRM:

- Gulfstream Service Letter Document No. GSL505510019, Revision E, dated September 3, 2021, which contains procedures for applying on-wing corrosion inhibiting compound to the horizontal stabilizer.
- Gulfstream Service Letter Document No. GSL505510020, Revision C, dated March 12, 2020, which contains procedures for applying corrosion inhibiting compound to the horizontal stabilizer.
- Gulfstream V Nondestructive Testing Procedures Manual Chapter 05-00-00, 1. Horizontal Stabilizer Lower Skin Resonance C-Scan – NDT Procedure.

Proposed AD Requirements in this NPRM

This proposed AD would require inspecting the horizontal stabilizer lower skin and associated bonded doublers and bonded stringers, repairing the area susceptible to corrosion, and incorporating revisions to the ALS of the existing AMM.

Differences Between this Proposed AD and the Service Information

The differences between Gulfstream G500-5000 Customer Bulletin No. 190, Revision B; Gulfstream G550 Customer Bulletin No. 190, Revision B; and Gulfstream V

Customer Bulletin No. 228, Revision B; all dated October 31, 2019, and this proposed AD are listed below.

- The service bulletins exclude certain serial-numbered airplanes inspected by Gulfstream, but this proposed AD would apply to all Model GV and GV-SP airplanes.
- The service bulletins include an optional horizontal stabilizer lower skin resonance A-Scan NDT inspection (referred to in the Customer Bulletin as “Part I Inspection”) for critical areas of the horizontal stabilizer bonded lower skin assemblies, but this proposed AD would not require the Part I Inspection.
- The service bulletins allow the horizontal stabilizer lower skin resonance C-Scan NDT inspection (referred to in the Customer Bulletin as a “Part II Inspection”) and application of corrosion inhibiting compound to be repeated indefinitely every 48 months. This proposed AD would only allow the Part II inspection to be performed one time and, within 48 months after the inspection, would require approved repairs.
- The customer bulletins contain actions labeled “Required for Compliance” (RC), and the language in the customer bulletin and in paragraph (j)(4) of this proposed AD indicate that operators must comply with all actions labeled RC for compliance with this AD. However, this AD does not require all of the steps in the customer bulletins that are labeled as RC. Operators only need to comply with the RC steps required by paragraph (i) of this AD.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect up to 694 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs				
Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Resonance C-Scan NDT (Part II) inspection and CIC application	80 work-hours X \$85 per hour = \$6,800	Not applicable	\$6,800	\$2,196,400 (for 323 airplanes)

AMM revision	1 work-hour X \$85 per hour = \$85	Not applicable	\$85	\$58,990 (for 694 airplanes)
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The extent of corrosion found during the proposed inspection may vary significantly from airplane to airplane. The FAA has no way of determining the number of airplanes that might need repair or the cost to repair each airplane.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Gulfstream Aerospace Corporation: Docket No. FAA-2021-0958; Project Identifier 2019-CE-010-AD.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Gulfstream Aerospace Corporation Model GV and GV-SP airplanes, all serial numbers, certificated in any category.

Note 1 to paragraph (c): Model GV-SP airplanes are also referred to by the marketing designations G500, G550, and G500-5000.

(d) Subject

Joint Aircraft System Component (JASC) Code 5510, Horizontal Stabilizer Structure.

(e) Unsafe Condition

This AD results from corrosion of the horizontal stabilizer lower bonded skin assemblies. The FAA is issuing this AD to detect and correct bond line corrosion, which if not addressed, could result in compromise of the structural integrity of the horizontal stabilizer and lead to loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Incorporation of Airworthiness Limitations (ALS) Revisions

Within 30 days after the effective date of this AD, incorporate into your existing maintenance or inspection program the ALS revision specified in paragraph (g)(1), (2), or

(3) of this AD for your applicable airplane designation.

(1) *For Model GV airplanes:* Section F and Table 12: Horizontal Stabilizer Inspection Table in section 05-10-10, Airworthiness Limitations, of the Gulfstream V Maintenance Manual, dated February 28, 2020;

(2) *For Model GV-SP (G500 and G500-5000) airplanes:* Section F and Table 12: Horizontal Stabilizer Inspection Table in section 05-10-10, Airworthiness Limitations, of the Gulfstream G500-5000 Maintenance Manual, dated March 15, 2021; or

(3) *For Model GV-SP (G550) airplanes:* Section F and Table 12: Horizontal Stabilizer Inspection Table in section 05-10-10, Airworthiness Limitations, of the Gulfstream G550 Maintenance Manual, dated March 15, 2021.

(h) Applicable Customer Bulletins

The customer bulletins specified in paragraphs (h)(1) through (3) of this AD contain procedures for compliance with the actions required by paragraph (i) of this AD for your applicable airplane designation.

(1) Gulfstream GV Customer Bulletin No. 228, Revision B, dated October 31, 2019;

(2) Gulfstream G500-5000 Customer Bulletin No. 190, Revision B, dated October 31, 2019; or

(3) Gulfstream G550 Customer Bulletin No. 190, Revision B, dated October 31, 2019.

(i) Inspection

For Model GV airplanes, all serial numbers, and Model GV-SP airplanes, serial numbers 5001 through 5158, where more than 132 months have elapsed since the original certificate of airworthiness issue date (often referred to as entry into service date), as of the effective date of this AD: Within 12 months after the effective date of this AD, perform the horizontal stabilizer lower skin resonance C-Scan inspection (Part II inspection) for bond line corrosion and apply corrosion inhibiting compound (CIC) by following steps 6.2.a. through 6.2.e. and 6.3.a. of appendix A of the applicable customer bulletin listed in paragraph (h) of this AD.

Note 2 to the introductory text of paragraph (i): The inspections listed in the applicable ALS revision in paragraph (g) of this AD must also be accomplished at the same time you perform the Part II inspection.

(1) Within 48 months after applying CIC, repair the area using a method approved as specified in paragraph (j)(3) of this AD.

(2) If there is bond line corrosion that exceeds the allowable damage limit, before further flight, repair the area using a method approved as specified in paragraph (j)(3) of this AD.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Atlanta ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the certification office, send it to the attention of the person identified in paragraph (k)(1) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair, modification, or alteration required by this AD if it is approved by a Gulfstream Engineering Authorized Representative (EAR) of the Gulfstream Organization Designation Authorization (ODA), that has been authorized by the Manager, Atlanta ACO Branch, to make those findings. To be approved, the repair, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) For service information that contains steps that are labeled as Required for Compliance (RC), the following provisions apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(k) Related Information

(1) For more information about this AD, contact Ronald Wissing, Aviation Safety Engineer, Atlanta ACO Branch, FAA, 1701 Columbia Avenue, College Park, GA 30337; phone: (404) 474-5552; fax: (404) 474-5606; email: ronald.wissing@faa.gov.

(2) For service information identified in this AD, contact Gulfstream Aerospace Corporation, Technical Publications Dept., P.O. Box 2206, Savannah, GA 31402; phone: (800) 810-4853; fax: (912) 965-3520; email: pubs@gulfstream.com; website: <https://www.gulfstream.com/en/customer-support/>. You may view this referenced service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 901 Locust, Kansas City, MO 64106. For information on the availability of this material at the FAA, call (816) 329-4148.

Issued on October 28, 2021.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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